REMARKS

Claims 1-4, 8, 9, 11 and 12 are currently active.

Claims 1 and 11 have been amended.

Antecedent Support

Antecedent support for the amended language in Claims 1 and 11 "determined without performing a one or higher dimensional DNA size separation on the products" is found in the specification on page 21, lines 1-6 where the application states: "This analysis shows that DNA fragment length genotypes can be *determined without performing a 1-D DNA size separation*. Instead, one can conduct two 0-D (tube or dot) experiments using two different ddATP to dATP terminator ratios. The resulting measurements are Laplace coefficients that contain enough information to mathematically estimate the fragment sizes."

35 USC Sect. 112, first paragraph

Claims 1-4, 8-9 and 11-12 were rejected by Examiner under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

Claims 1 and 11 were amended to recite the negative limitation language "determined without performing a one or higher dimensional DNA size separation on the products" which has support in the originally filed application on page 21, lines 1-6.

Applicant respectfully submits that the invention as amended fully addresses and adequately overcomes examiner's objections, and requests that the claims now be allowed.

35 USC Sect. 112, second paragraph

Claims 1-4, 8-9 and 11-12 were rejected by Examiner under 35 U.S.C. 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 11 were amended to recite the definite language for a detection that is "determined without performing a one or higher dimensional DNA size separation on the products," found in the originally filed application on page 21, lines 1-6. This amended language specifically states that the detection on the products must be performed in less than one dimension, i.e., a zero dimensional assay. Examples of such 0-D assays, such as a tube, a microtiter plate well, or an array surface dot, are provided in the specification on page 21, line 3, on page 23, lines 22-24, on page 28, lines 4-12, and page 38, line 6 through page 41, line 5.

Applicant respectfully submits that the invention as amended fully addresses and adequately overcomes examiner's objections, and requests that the claims now be allowed.

Prior Art

Claims 1-4, 8, 9 and 11 were rejected by Examiner under 35 U.S.C. 102(b) and (e)(2) as being anticipated by Ruano.

Ruano discloses a method of sequencing a nucleic acid on an array that includes the step of "size separation of the products ... via electrophoretic methodology on sequencing gels." Examiner specifically refers to this prior art size separation step, reciting "size separation of the products is disclosed in the reference via electrophoretic methodology on sequencing gels," found in the Office Action on page 4, second paragraph.

Applicant's invention, as amended, is distinguished from this prior art of one (or higher) dimensional electrophoretic size separation in Step (c) of the amended claims 1 and 11 by "detecting a total amount of label ... <u>determined without performing a one or higher dimensional DNA size separation on the products</u>." The prior art electrophoretic methodology employed by Ruano is a one dimensional size separation. The instant invention, as amended, is distinguished from this prior art in that no one dimensional size separation is ever performed, and, indeed, such a dimensional size separation step is specifically excluded from

the invention by the amended language of Step (c). Therefore, the invention, as amended, is distinguished from the cited prior art.

Claim 12 was rejected by Examiner under 35 U.S.C. 103(a) as being unpatentable over Ruano as applied to clains 1-4, 8, 9, and 11 taken in view of Lander et al.

To Ruano's amplification and sequencing steps, Lander et al. add the improvement of automation involving thermocyclers and computer analysis. However, this referenced prior art combination of Ruano and Lander necessarily includes the step of "size separation of the products ... via electrophoretic methodology on sequencing gels."

Applicant's invention, as amended, is distinguished from this prior art that uses one dimensional electrophoretic size separation. Applicant's amended invention includes the novel Step (c) of amended claims 1 and 11 for "detecting a total amount of label ... determined without performing a one or higher dimensional DNA size separation on the products." The prior art electrophoretic methodology employed by Ruano is a one dimensional size separation. The instant invention, as amended, is distinguished from this prior art in that no one dimensional size separation is ever performed, and, indeed, such a dimensional size separation step is specifically excluded from the invention by the amended claim language of Step (c). Therefore, the invention, as amended, is distinguished from the cited prior art combination of Ruano and Lander.

Applicant respectfully submits that the invention as amended fully addresses and adequately overcomes examiner's objections, and requests that the claims now be allowed.

In view of the foregoing amendments and remarks, it is respectfully requested that the outstanding rejections and objections to this application be reconsidered and withdrawn, and Claims 1-4, 8, 9, 11 and 12, now in this application be allowed

Respectfully submitted,

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